



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/891,406 | 06/27/2001 | Masashi Kitabayashi | 109321 | 1332 |

25944 7590 02/26/2003

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,406

Applicant(s)

KITABAYASHI, MASASHI

Examiner

Andrew T Sever

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2003 and 02 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 02 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on January 2, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16 and 17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The use of the term "optical compensating sheet" is not supported by the specification as originally filed. It is new matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume et al. (US 6,375,328) and further in view of Oka et al. (US 6,340,404) and Taniguchi (US 4,765,729).

Hashizume teaches in figure 5 a projector comprising a light source (8), a color separating optical system that separates a light beam emitted from the light source into a plurality of colors (924), a plurality of electro-optical apparatuses (925R, 925G, 925B) that modulate the color beams that have been separated by the color separating optical system (924), a prism (961R, 961G, 961B) that synthesizes the color beams that have been modulated by these electro-optical apparatuses (925R, 925G, 925B); and a projection lens (6) that projects light emitted from the prism as is claimed by applicant's claims 5 and 6. Hashizume further teaches in column 10 and figure 6 the structure of a dust preventing member that is a part of the frame holding both the electro-optical apparatus (925 R) and transparent plates (962 R) and in column 16 lines 59-65 that the dust-preventing member (965R) can be formed of resin as is claimed in applicant's claims 7 and 8. Hashizume teaches in column 11 line 63 – column 12 line 2 that the transparent plates (962 R, G, B and 93 R, G, B) which surround the liquid crystal device and form part of the electro-optical apparatuses can be treated for electrostatic protection in order to prevent dust effectively. Hashizume however, does not necessarily teach the content of that electrostatic protection.

Oka et al. Teaches in column 1 lines 10-41, that it is useful to provide optical functional films, which are antireflection films on such devices as polarizing plates in

liquid crystal displays, optical lenses, and other glass components and support structures. Often this also includes antistatic coatings, which repel dust as taught in column 12 lines 26-34. This antistatic property is provided to the antiglare layer by using conductive particulates of tin oxide or other inorganic conductive substances in a resin. Taniguchi teaches in column 6 lines 13-23 that besides tin oxide other metals such as Au, Ag, and Al can be used along with films of inorganic oxides such as indium oxide and tin oxide (SnO_2) can be used to form a transparent electro-conductive layer which gives an optical article having such a layer both anti-reflection effects and anti-static effects as is claimed by applicant's claim 1, 2, 9-13 and 16-18. The resin can include Silica as taught in column 9 lines 34-47 and as claimed by applicant's claim 3. Since both Hashizume and Oka teaches that it is desirable to impart anti-static properties to optical components including electro-optical apparatuses; it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Oka and Taniguchi to use conductive particulates such as any of Ag, Au, Al, and other metallic particulates and/or, tin oxide for an antiglare and antistatic layer and to place conductive particulates in it in order to make it also an antistatic layer, so as to reduce the dust that clings to the electro-optical element in the projector taught by Hashizume.

With regards to claims 9-13 and 18, Oka teaches in column 1 lines 10-14 that the antiglare and antistatic films are useful on polarizing plates, glass lenses, and other optical components. Hashizume teaches some of these components in figure 5 that in light of Oka's teaching it would be obvious for one with ordinary skill in the art at the time the invention was made to put an antistatic film of the type taught by Oka and

Taniguchi on. Hashizume teaches 3 field lens (953, 952, 951), which are all glass lenses and in view of the teachings of Oka it would be obvious to put Oka and Taniguchi's anti-static treatment on as is claimed by applicant's claim 9. Hashizume teaches three polarizers (960R, 960G, and 960B) disposed adjacent to a light source side of the electro-optical apparatus, which are a type of polarizing plates and in view of the teachings of Oka it would be obvious to put Oka and Taniguchi's anti-static treatment on as is claimed by applicant's claim 10. Hashizume teaches 3 emergent polarizers (961R, 961G, 961B) disposed adjacent to the projection lens side of the electro-optical apparatuses; the polarizers are a type of polarizing plates and in view of the teachings of Oka it would be obvious to put Oka and Taniguchi's anti-static treatment on as is claimed by applicant's claim 12. Hashizume teaches a prism for synthesizing the color beams that have been modulate by the electro-optical apparatus, which are optical glass components that commonly are known to also contain polarizers and in view of the teachings of Oka it would be obvious to put Oka and Taniguchi's anti-static treatment on as is claimed by applicant's claim 18. With regards to claims 11 and 13 it is well known to form optical components by bonding them to light transmitting substrates and to place the antistatic coating taught by Oka and Taniguchi on the substrate in addition or instead of placing it on the actual component such as incident polarizers and emergent polarizers as claimed in applicant's claims 11 and 13 respectively.

6. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume in view of Oka and Taniguchi as applied to claims 1-3, 5-13, and 16-18 above, and further in view of Ohtsuka et al. (US 6,423,404.)

Hashizume in view of Oka and Taniguchi as described in more detail above, teaches a projector comprising a light source, a color separating optical system that separates a light beam emitted from the light source into a plurality of colors, a plurality of electro-optical apparatuses that modulate the color beams that have been separated by the color separating optical system, a prism that synthesizes the color beams that have been modulated by these electro-optical apparatuses; and a projection lens that projects light emitted from the prism as is claimed by applicant's claims 9-18. Hashizume in view of Oka further teaches that the electro-optical element is sandwiched between a pair of substrates, which have antistatic properties. An inorganic layer that has silica and conductive particulates that include any of Au, Ag, and Al as well as tin oxide, in it to provides these antistatic properties. However, Hashizume in view of Oka and Taniguchi does not specifically teach a range of resistance values for this layer.

Ohtsuka et al. teaches in column 1 lines 8-22 a transparent layered structure for use on display components that imparts an electric field shielding function as well as antireflection and antistatic functions. Further Ohtsuka teaches in column 2 lines 32-39 that its desirable for the surface resistance value to range from about $10^6 \Omega/\square$ to $10^{10} \Omega/\square$ for achieving the desired electrostatic charging prevention and electric field shielding. Since the purpose of the antistatic layers provided on the surface of the substrates sandwiching the electro-optical element of Hashizume in view of Oka and Taniguchi's

projector is to prevent the build of electrostatic charge (which attracts dust), it would have been obvious to one of ordinary skill in the art to design the anti-static layer of Hashizume in view of Oka and Taniguchi so that it has a resistance value about $10^6 \Omega/\square$ to $10^{10} \Omega/\square$.

7. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume in view of Oka and Taniguchi as applied to claims 2, 3, 9-13, and 16-18 above, and further in view of Suzuki et al. (US 6,379,010).

Hashizume in view of Oka and Taniguchi as described in more detail above, teaches a projector comprising a light source, a color separating optical system that separates a light beam emitted from the light source into a plurality of colors, a plurality of electro-optical apparatuses that modulate the color beams that have been separated by the color separating optical system, a prism that synthesizes the color beams that have been modulated by these electro-optical apparatuses; and a projection lens that projects light emitted from the prism as is claimed by applicant's claims 9-18. Hashizume in view of Oka and Taniguchi further teaches that the electro-optical element is sandwiched between a pair of substrates, which have antistatic properties. An inorganic layer that has silica and conductive particulates including any of Ag, Au, Al, as well as inorganic compounds like tin oxide in it, provides these antistatic properties. However, Hashizume in view of Oka and Taniguchi does not teach the use of a phase plate disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical

apparatus, at least one surface of the phase plate being provided with at least one of an antistatic layer and an antistatic treatment.

Phase plates are well known to be provided in projectors. One example is taught in Suzuki et al. in figure 3 a phase plate (half wave plate 20Bi) is provided in one path. Since Hashizume in view of Oka and Taniguchi teaches that it is beneficial to put anti-static coatings on optical components which would include phase plates, it would have been obvious to one of ordinary skill in the art at the time the invention was made to put an anti-static coating on the phase plate in order to prevent dust from adhering to the plate. .

With regards to claims 15 it is well known to form optical components by bonding them to light transmitting substrates and to place the antistatic coating taught by Oka and Taniguchi on the substrate in addition or instead of placing it on the actual component such as a phase plate as claimed in applicant's claim 15.

Response to Arguments

8. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

A third reference has been added in the new grounds of rejection: Taniguchi. Taniguchi teaches the well-known use of metallic and inorganic compounds in anti-reflection layers to give the layers also an anti-static effect. Taniguchi teaches that tin oxide such as taught by Oka et al. is interchangeable with other metallic particulates such as the claimed Au and Ag.

With regards to claim 16 and 17, applicant claims that the new amendment, which uses the term “optical compensating sheet”, corrects the 35 USC 112 second paragraph rejection. Applicant states that this was in accordance to the discussion of the January 28 personal interview. The examiner wishes to draw the applicant’s attention to the interview summary which clearly states that the 112 rejection remains and does not refer to any agreement on how to correct it.

The term “optical compensating sheet” is not found in the specification as originally filed, rather the applicant states that it is supported in another US patent to Ito et al. While this may be true, the term “optical compensating sheet” must be defined in the current application. The rejection has been changed to 35 USC 112 first paragraph rejection since amended claims 16 and 17 are not supported by the specification as originally filed and are therefore not enabled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached M-TH 8:30-6:30.

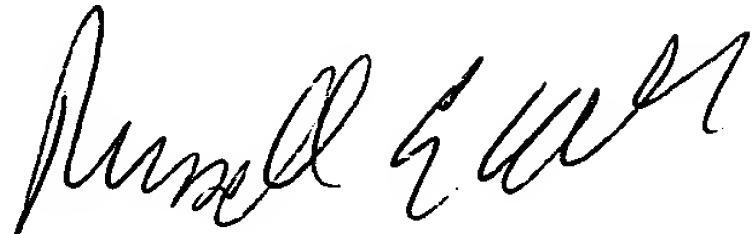
If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Russell Adams can be reached at 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Application/Control Number: 09/891,406
Art Unit: 2851

Page 10

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS
February 20, 2003


RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800